

QUESTIONS & ANSWERS

Oil Shale Production and Leasing

What is oil shale?

Oil shale is sedimentary rock that contains large concentrations of combustible organic matter, or bitumen, which is released as petroleum-like liquid (kerogen) when the rock is heated.

How is oil extracted from shale formations?

A variety of methods for processing oil shale have been developed, but the common element among them is the use of heat to bring the kerogen out of the rock and mimic the natural geologic process that resulted in conventional deposits of oil and natural gas. The heating process is called *retorting*.

What kinds of retorting techniques are currently in use?

Processes fall into one of two categories: mining followed by surface retorting, and in-situ (in-place) retorting. Mining with surface retorting was the method used by participants in the Oil Shale Prototype program of 1973-74. In-situ retorting is newer and does not permanently modify the land surface. One in-situ process heats the shale underground, releasing the kerogen, which is then pumped to the surface for refining.

Will the potential environmental impacts be more extreme than those from conventional oil and gas development?

Many of the methods proposed in the RD&D applications are new. Advancing knowledge about them is a primary reason for conducting the RD&D program. The BLM will require NEPA analysis of all the environmental effects of each remaining proposal. If these effects exceed acceptable levels, the BLM will not grant an RD&D lease.

What is different in the process now with the development of oil shale compared to 20 years ago?

In-situ (in-place) retorting and other new technologies that had not been developed 20 years ago involve less surface disturbance. Knowledge about oversight and mitigation has advanced in the years since the Prototype program. RD&D oil shale leasing is being carefully phased to ensure that newer extractive technologies are able to operate at economic and environmentally acceptable levels before conversion to commercial operations is authorized.

Why is it so important to move forward with leasing federal lands for oil shale production?

If domestic oil shale resources are to be developed, it will almost certainly have to be done on federal lands. U.S. oil shale resources underlie a total area of 16,000 square miles – the largest known oil shale concentration in the world. Federal lands comprise roughly 72% of this surface acreage, and 82% of the oil shale resources in the Green River Formation in Colorado, Utah and Wyoming. Estimates suggest that oil recoverable from shale in this area would be enough to meet U.S. demand for 110 years.

How many acres will be awarded for research, development and demonstration?

RD&D nominations were limited to 160 acres. Applicants could also request that preference rights for possible commercial conversion in the future be reserved on up to 4,960 additional contiguous acres, for a potential total of 5,120 acres per lease.